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THROUGH FIRE.

DURING a residence of several years in New York, I was in the habit of passing some months every summer at one or other of the various watering-places in the vicinity of that city.

In 1848, I spent a few weeks at Babylon, a village on the south side of Long Island, in order to enjoy the Blue fishing, for which that part of the coast is famous.

In most small country places in the United States, there will be found some lazy ne'er-do-weel, some 'shiftless loafer,' to use an American idiom, who neither obtains, nor seeks for, regular employment, but is content to pick up a precarious subsistence by fishing and shooting, after the manner of our old friend Rip Van Winkle, leaving his wife and family—if he have any—to get a living as they best may.

The individual in Babylon who enjoyed a monopoly of the advantages to be derived from being the only loafer in the village, was a half-breed, known as 'Indian John.' He was a bachelor, and so expert with both rod and gun, that—having no one to provide for but himself—he might have done very well, but for his incorrigible laziness and his love of 'fire-water.' So long as he had a dime in his pocket, or, failing that, could get credit at the village store for a pint of rum or whisky (the time of which I speak was before the Maine Law had been introduced into the state of New York), no money would tempt him to exertion of any kind. Yet, when absolutely driven to it by necessity, he would work, and work hard too, for a brief period; enduring, without a murmur, far more toil and fatigue than a white man would have borne under the same circumstances. But, like all his race, he was, as I have said, incapable of habitual labour. 'John,' he would say, as soon as he had a piece of silver in his possession, earned or given him—'John no work to-day; John got dollar; John gent'l man.'

On two or three occasions, when I had been unable to secure the services of one of the regular boatmen, I had engaged John to accompany me on

my fishing expeditions. But it was rather reluctantly that I did so, for I felt a species of antipathy to the man, which found some justification in the singularly repulsive expression of his countenance. When one looked at him, indeed, one was reminded of what Quin said of Macklin, 'that if Nature wrote a legible hand, he must be a scoundrel.'

He was a surly, sullen fellow too, rarely speaking except in monosyllables, or evincing the slightest interest in what was going on around him. I was, therefore, the more surprised at a little incident which occurred on one occasion when I found myself alone in the boat with him.

We had been fishing for some time with indifferent success, when, thinking that we might do better by putting farther out to sea, I took out my watch, for the purpose of ascertaining how long it would be before the tide turned. As I did so, I observed the eyes of the half-breed fixed admiringly upon it. It was indeed a very pretty trinket, the face being engraved with much taste, while on the back there was a butterfly in blue enamel incrustated with small diamonds. It was, in fact, a lady's watch, and belonged to my sister, who had lent it to me the day I left New York, to replace my own, of which I had broken the spring that same morning—a misadventure there had not been time to repair before my departure.

Even the proverbial stoicism of his race, apparently, had not power to steel the half-breed against the fascinations of the object of his admiration. After a brief struggle to maintain his dignity, he gave way, and asked to be allowed to look at the watch. I, of course, complied with his request, and placed it in his hand that he might examine it at his leisure. He kept it for some minutes, and it was, finally, with manifest reluctance that he returned it. I observed him closely, and could see, by the expression of his eyes, that he had become possessed by one of those almost uncontrollable desires, to which savages, like children, are occasionally subject—it being, obviously, a positive pain to him to part with the watch. However, he had no alternative but to do so; and there the matter ended for the time.

On the morning I had arranged to return to New York, the heat was almost intolerable, and had not important business required my presence in the city the following day, I should most certainly have deferred my journey until the weather was somewhat more endurable. However, I decided to compromise the matter; and instead of taking the 11 A.M. train for Brooklyn, as I had originally intended, I resolved to return to town by the one which left Centreville (the nearest station), at 8 P.M.; by which hour the sea-breeze would have somewhat cooled the atmosphere.

The railway runs as nearly as possible through the centre of Long Island from Brooklyn to Montauk Point. Thus travellers from any of the villages on the Atlantic are, or rather were—for the facilities of communication have been greatly improved since the time of which I speak—conveyed to the dépôts, as stations are termed in the United States, by means of omnibuses owned by the proprietors of the various hotels.

I happened to be the only passenger from the hotel that evening for the train. It was not thought worth while, therefore, to make use of the omnibus; but Snedicoor, the landlord, promised that a light wagon, *Anglicæ* chaise, should be in readiness to convey me to the dépôt.

At the last moment, however, an unexpected difficulty presented itself. Who was to drive me? Most of the inhabitants of the village had gone over to Fire Island, it being a gala day in those parts, and amongst them the men belonging to the hotel.

'You couldn't drive yourself, Mr Wilson, no-heow, I suppose,' said Snedicoor to me interrogatively. 'You could leave the wagon,' he added, 'at Van Riper's; his store is just alongside the dépôt, and one of the boys would bring it back in the morning.'

'Well,' I replied, 'I am afraid not. I have only travelled the road once, and there are so many turnings, that I think it not unlikely I might lose myself in these interminable pine-forests of yours.'

'Waal, now,' rejoined the old man, 'I don't know but what I'll hev tu go myself; but it's mighty orkard too, I tell you, for I've a big supper tu fix tu-night for the crowd that's coming.'

We were standing on the piazza of the hotel, and while Snedicoor was speaking, the half-breed, rifle in hand, but with an empty game-bag, came down the road with the slow slouching gait peculiar to him.

As soon as the landlord saw the man, his face brightened up.

'Oh, here's John,' he said; 'I thought he had gone over tu the island. He doesn't seem to have had much luck; he'll be glad to drive you over tu Centreville, I guess, Mr Wilson.—John,' he called out, 'I want you to take this gentleman tu the dépôt, right away. Can you go?'

'Me go!' said the half-breed. 'How much give?'

'A silver quarter!' [twenty-five cents] was the reply.

'And glass rum?' added John.

'Yes, and a glass of rum,' rejoined the landlord.

'Rum now?' said the other interrogatively.

'No! When you return,' replied Snedicoor, adding to me, *sotto voce*: 'If I gave it tu him now, very probably he would not stir an inch afterwards, but lie right down on the ground, and go tu sleep.'

The half-breed nodded sullenly, to intimate that he accepted the proffered conditions; and as soon as my luggage had been deposited in the wagon, we drove off, John placing his rifle beside him on the front seat.

That John had been drinking already was tolerably obvious—not that his speech was thick, or his carriage unsteady; intoxication rarely manifests itself in this form in the Indian—but there was a ludicrous assumption of dignity about the fellow—characteristic of his race when drunk—which at once revealed to me his condition.

I pause here to observe, that the motives which induce the white man and the Indian to drink are totally opposite in character. The former drinks from good-fellowship, or because he likes the liquor; with him, as a rule, intoxication is the accidental result of over-indulgence. The Indian, on the contrary, drinks simply to get drunk: it is but a means to an end. Hence the story of the Comanche brave, who, after imbibing as many glasses of well-watered whisky as his stomach would hold, went to the seller, and, in an aggrieved tone, said: 'Me full up, and drunk no come yet!'

The road, after running along the shore for about three-quarters of a mile, branched off, nearly at a right angle, into the woods; at the expiration of half-an-hour, we came to a spot where it divided into two forks. The half-breed, somewhat to my surprise—for I had an impression that Centreville lay in the opposite direction—took the road to the right. Still I said nothing, knowing that he must necessarily be better acquainted with the way than I was.

Before long, however, I became convinced that we were going wrong. The road, or rather lane, we had entered upon seemed but little travelled, the grass growing in many places in the wheel-ruts, which it was scarcely credible to suppose could be the case with a road traversed so frequently as the one between Babylon and Centreville. The forest, too, seemed to become denser and denser. Even at mid-day, the sunlight penetrates but feebly through the masses of foliage which crown the heads of the tall pine-trees in these woods; and now, as the evening began to draw in, the darkness was very perceptible.

I was half-disposed to believe that John was really more intoxicated than he appeared to be, and that, notwithstanding the proverbial sagacity of his race in such matters, he had taken the wrong road unconsciously. I therefore decided to speak to him without further delay. I said that it was evident we were going in the wrong direction, and I desired him to turn back at once. The fellow evinced not the slightest disposition to

comply with my request, but continued to drive doggedly on, only replying in a sulky tone: 'John on right path. Know him well; stranger don't.'

The situation was becoming awkward. That any individual having Indian blood in his veins could, under any circumstances, lose his way, was not easy of belief to one who had read Cooper's 'Leather-stocking' tales, and who, at that time, was a devout believer in the fidelity of his descriptions of the red man. Yet, that the half-breed *had* taken the wrong road I was pretty well certain. Was it not more likely, then, that he had done so intentionally; and if so, with what motive? In an instant, there flashed across my memory the incident in the boat, already referred to. I remembered, too, that when I had looked at my watch that evening, as I was getting into the wagon, there had come suddenly into the half-breed's eyes the same fierce, covetous light I had noticed on the previous occasion. Were his intentions evil, what opportunity could be more favourable for their execution than the one which now presented itself—here, in the heart of the forest, miles from any human habitation; the weapon, too, ready to his hand! Ah! there was the question—and my heart beat quicker as it suggested itself—Was the rifle charged, or not? If not, I would take very good care to prevent his loading it.

But if it were? Well, even then, being on my guard, my chances were not altogether desperate. It is true I was unarmed, my gun—the barrel unscrewed from the stock—being in a mahogany box under the front seat. But I was, I flattered myself, a far stronger man than the half-breed, and, bar fire-arms, I had but little apprehension as to the result of a struggle between us, if I once closed with him. His position, too, on the front seat, with his back towards me, gave me this advantage, that, to attack me, he must turn himself completely round; and his doing so would, I believed, afford me time to place myself on the defensive. I resolved, therefore, the very instant I saw his hand directed towards the rifle, or that he was guilty of any overt act whatever, to grapple with him, and, if possible, make myself master of the weapon.

In moments of peril or extremity, men think with extraordinary rapidity, and these reflections, and many others, passed through my mind in a few seconds.

The half-breed still kept driving rapidly through the woods, and, as night was drawing on, I resolved to wait no longer, but to precipitate the issue at once. I therefore peremptorily ordered him to stop, determined to have recourse to force, if necessary, to compel his compliance.

The fellow paid not the slightest attention to me, but applied the lash furiously to the horse's back; we dashed along the road for a couple of hundred yards more, and came suddenly to a large open space, at which the lane apparently ended. The spot was one evidently used for charcoal-burning, for several acres of timber had been cut down, and scattered here and there were piles of wood, arranged in the usual circular form, ready for firing. The road, in fact, was a private one, and only used, at certain periods of the year, by the owners of this portion of the forest to convey the charcoal and firewood to market.

As we drove into the clearing, the half-breed reined in the horse sharply, and, before I could

guess his intentions, leaped, with extraordinary agility, rifle in hand, out of the wagon.

As I was preparing to follow him, he raised his gun and fired at my head. He was just a second too late; had I still been sitting erect, at the back of the wagon, the ball must, inevitably, have passed through my brain, but I had leaned slightly forward in the act of jumping out, and this saved me. As it was, he aimed just a hair's-breadth too high, and the bullet only grazed my scalp, tearing up the skin and inflicting a wound, which bled profusely, but was otherwise rather painful than dangerous.

Believing myself, for the moment, to be more seriously hurt than I really was, and rendered additionally savage by this very circumstance, I precipitated myself upon the half-breed without a moment's pause: he made a blow at me with the clubbed rifle, but I evaded it and closed with him. He proved to be much stronger than I had anticipated, judging from his height and build, but still no match for me; for, at that period, I was a man of more than average strength, and the Indian rarely possesses the muscle of the white man. In fact, conscious of his inferiority in this respect, he invariably avoids, if possible, engaging in a hand-to-hand encounter with him.

The struggle for the possession of the rifle lasted less than a minute, and having, by one supreme effort, wrested it from my antagonist, uttering a short sharp exclamation of rage at finding himself baffled, he turned and fled into the forest.

For a moment, I was sorely tempted to follow him, for my blood was thoroughly up; but the increasing darkness warned me that this was impracticable. Indeed, familiar as the half-breed doubtless was with every intricacy of the forest, to have pursued him would, under any circumstances, most probably have been futile.

I now looked round me to see what had become of the wagon, for the horse, left to his own guidance, had trotted off as soon as I had quitted the vehicle. I found that he had stopped, of his own accord, about a couple of hundred yards off, and was quietly cropping the grass by the way-side.

I got into the wagon, resolved to return to Babylon at once, and give information of what had occurred, in order that early the following morning the woods might be scoured (and I knew they would be, thoroughly) for the half-breed. Indeed, even had I not felt it my duty on public as well as private grounds to do this, to have continued my journey that night would have been impossible, for, long before I could reach Centreville, the last train would have left for Brooklyn.

The atmosphere was oppressively close; not a breath of air was stirring; and heavy masses of black cloud were slowly rising in the west. Hitherto, I had been too preoccupied to notice these indications of an impending storm; but, now that I observed them, I felt that the warnings they conveyed were not to be disregarded. I hoped, nevertheless, to be able to get back to the village, or, at all events, so far as the open road, along the sea-shore, before the storm burst; for I knew that I should be subjected to considerable inconvenience, if not positive danger, if overtaken by it while in the forest. I, therefore, notwithstanding the darkness, tore along the road at a rapid pace. The horse, indeed, seemed to sympathise with my uneasiness, and scarcely needed urging to put forth his utmost speed.

I had barely ridden a mile, however, when the low mutterings of the approaching storm became distinctly audible. The wind began to sigh mournfully through the trees, until, at the expiration of a few minutes, it suddenly rose—as it frequently does in these latitudes—to a perfect hurricane; the tall pines bent before the blast like grain in harvest-time; branches, and even limbs, torn from their parent trunks, strewed the road; while, every now and again, was heard the crash of some falling tree, which, weakened with age, was unable longer to withstand the fury of the gale.

Flash after flash of the most vivid lightning I have almost ever beheld succeeded each other in rapid succession, the heavy peals of thunder reverberating over my head; the rain, too, at intervals, came down in heavy showers. It was, in fact, as the Fool says in *King Lear*, 'a naughty night to swim in.'

At last, a terrific flash of lightning, followed by the sharp report the electric fluid always makes when it strikes, warned me that a new danger was impending; that a tree had been struck, and that, in all probability, the woods would shortly be on fire. Nor was I mistaken. In less time than I could have believed it possible for the flames to become visible, a lurid glare to the right, apparently about a mile distant, proved that the forest in that direction had become a prey to the devouring element.

No rain had fallen for the previous six weeks, and, notwithstanding it was now coming down rather heavily, the fire spread amongst the dry resinous pine-trees with fearful rapidity, threatening to completely cut off my retreat. Could I, indeed, but once get to the fork of the roads, I knew I should be comparatively safe; for, as soon as I entered the lane leading to Babylon, the wind would face me and drive the flames in the opposite direction. The doubt was, whether I *should* be able to get so far without being intercepted by the fire. Still, it was my only chance, and I drove furiously on, half-blinded by the dense volumes of smoke which rolled across my path, while myriads of sparks shot up, every now and again, from the burning forest.

At last I reached the fork of the roads, but not a minute too soon; for the flames, with an eager, hungry roar were rushing furiously forward, at a right angle with the road, at a distance of less than two hundred yards.

I turned the corner and dashed into the Babylon Road. The danger was past; and it was with a comparatively light heart I drove the remainder of the distance.

The fire proved one of the most destructive ever known in those woods; and, notwithstanding the fact that the rain came down heavily for many hours, swept several hundred acres completely clear of timber, leaving nothing but the charred and blackened stumps of the trees remaining.

The search for the half-breed was unsuccessful; and it was thought that he had quitted that part of the island. But, some days after the fire had subsided, a party of villagers, whom curiosity had led to visit the scene of the late conflagration, came across a small heap of charred bones, among which were several metal buttons and the remains of a powder-flask, which were at once recognised as having belonged to 'Indian John.' There could, therefore, be but little doubt that, being on foot,

the half-breed had been unable to outstrip the flames, and had perished miserably in the burning forest.

HALLUCINATIONS.

It must be admitted that the interest attached to the subject of hallucinations is not of a particularly pleasing or cheerful kind. The mental associations which cohere to it necessarily impart to it something of their own sombre complexion. In the first place, to a person holding exalted notions of the inherent dignity of his species, the historical relations of the subject are not by any means assuring. In all ages, hallucination has been closely allied to superstition, sometimes in the way of cause, and sometimes of effect. As illustrative of this, we need only point to the presence of this element in the moral epidemics which have prevailed in Europe. Mr Lecky has shewn that it was hallucination which prompted the early anchorites to endure the horrors of their desert life; it was this that gave rise to the hideous forms of epidemic degradation called lycanthropy, vampyrism, and the dancing manias of the middle ages; and it forms a chief feature in that outbreak of so-called witchcraft, which for nearly two centuries pressed like a nightmare on the peoples of Europe, and followed the Pilgrim Fathers to America. The subject is also invested with a weird unearthly interest, from the resemblance of ocular hallucinations to the popular ideal of the class of disembodied spirits, which, for reasons of their own, are supposed to 'revisit the glimpses of the moon.'

But apart from these melancholy associations, the subject is one of considerable intrinsic interest, and not devoid of some bearing on questions of practical every-day life. Hallucinations occur only in certain abnormal, though not necessarily morbid states of the body. They may be described as a class of sensations in which the impression, while appearing to be made by an external object, is really due to some internal cause. A hallucination, then, is simply a counterfeit sensation; an impostor, whose 'get-up' is so admirable as to enable it successfully to personate an impression by a real object. Hallucination may occur within the province of any of the senses. Those of smell are occasionally met with in connection with disease. Burton, in his *Anatomy of Melancholy*, mentions the case of a French poet who was ordered by his physician to anoint his temples with a certain unguent to act as a soporific; 'but he so detested the smell of it, that for many years after, all that came near him he imagined to scent of it, and would let no man walk with him, nor wear any new clothes, because he thought they smelled of it; in all other things wise and discreet, he would talk sensibly.'

Hallucinations of touch rarely occur unless in connection with those of the other senses. Those pertaining to the auditory nerve are, however, not unfrequent. Mr Lewis mentions that Charles Dickens once declared to him that every word said by his characters was distinctly heard by him. An eminent living English physiologist says of himself: 'In reading books written by persons with whom I am acquainted, I am sometimes tormented by hearing the words pronounced in the exact way in which these persons would

utter them, any trick or peculiarity of voice or gesture being also very accurately reproduced.' Dr Johnson was greatly impressed by hearing, on one occasion, his mother distinctly calling his name, 'Samuel,' though at the time she was many miles distant. Dr Ortiqne, the French musician, states that the songs of birds in the country have so vividly reawakened in him the impression of Beethoven's *Pastoral*, that he heard that symphony executed with a precision and justness of intonation perfectly marvellous.

But the most striking examples of hallucinations are those connected with visual impressions. Here, it is almost impossible, for the moment, to resist the conviction that an impression on the retina similar to that which would be made by an object has actually been made by such an object. The aphorism 'Seeing is believing' expresses the popular idea of this irresistible force of visual sensations. To discredit the evidence of their own eyes would appear to most people a mental feat equally impossible and irrational. Yet the ability to exercise the kind of incredulity of which this is a popular description, far from being necessarily irrational, is sometimes the very evidence and crucial test of reason. Accounts of remarkable cases of ocular hallucination are so common, especially in medical literature, that it is difficult to select. A lady, Miss N—, was one evening left sole inmate of her house, the rest of the family, including her infirm mother, being out. A dreadful thunder-storm which came on made her thoughts wander anxiously to her father. Happening to visit the room he usually occupied, she was surprised to see him seated in his arm-chair. Thinking he had come in without her having heard him, she went forward to inquire how he got in. Repeating the word 'Father,' she tried to put her hand on his shoulder, when it went down, from having met no resistance. She retired in great alarm. After a time, she mustered courage to return to the room, in order to ascertain whether she had not been deceived by some peculiar arrangement of the drapery or furniture. The figure was seated as before; and she now concluded that it was a hallucination. She looked at it from various points of view, rubbed her eyes, but without affecting the appearance. It was still there when she entered the room the third or fourth time. It should be added that the lady was convalescent from a recent illness.

Not unfrequently, in hallucinations, several of the senses are concurrently affected. A student was about to retire to bed after a hard night's work, when the accidental turning up of a letter from an old companion, long dead, brought up recollections of the deceased. He had just extinguished his candle, when he heard himself addressed by the well-remembered voice of his former friend, and at the same time felt his arm grasped. Suspecting the nature of the visitation, he relighted his candle, and saw standing before him the form of his old friend. It beckoned to the door, and glided out, when he became giddy, and fell down. Though three senses were implicated in this instance, the student never had any doubt that he was the subject of hallucination.

A case remarkably similar in its details is also on record. A gentleman who had been engaged in reading during the evening, was about to retire to his bedroom, when he chanced to see a letter on

a side-table. It proved to be an intimation to attend the funeral of the mother of an old deceased acquaintance. This led his thoughts to the painful history of the family and of his friend. Engaged in these reflections, he undressed himself and extinguished his candle, when he suddenly felt his arm grasped a little below the shoulder, and forcibly pressed to his side. He struggled to free himself, calling aloud: 'Let go my arm;' when he distinctly heard the words: 'Don't be afraid,' uttered in a low tone. He immediately said: 'Allow me to light the candle;' when his arm was released. On lighting the candle, and turning towards the door, he saw before him the figure of his deceased friend. On stepping towards it, it receded, face towards him. It passed thus slowly down-stairs, but stopped when the lobby was reached. He passed close to the figure, and opened the street-door, when he became giddy, sank into a chair, and let fall the candle. He never for a moment considered the image a real object. In these three cases, the reader will have perceived the presence of one common mental element—that of strong emotional feeling.

In the following example, profound concentration of the attention on a favourite object seems to have been the antecedent determining condition. M. Baudry, a French engineer, was one day deeply occupied with a canal scheme, and had just traced on a map before him the route which he proposed for it. All at once he saw before him a pamphlet in yellow with the title, *Project of the Opening of a Canal in the Plains of Sologne*. For several minutes he read in it, the ideas being of course confirmatory of his own, when the phantasmal brochure disappeared. When the hallucination becomes persistent and chronic, the effect may be disastrous, even though it is unable to coerce the mind into a belief of its objective reality. This is illustrated in the well-known case related by Sir Walter Scott, in which an eminent lawyer died from mental depression from being continually haunted by a skeleton, though he was quite aware of the purely subjective character of his tormentor.

In such cases as these, where does the deception lie? Is it the senses that are deluded in hallucination? This is, no doubt, the popular idea, and it is a convenient way of stating the matter. But it is not strictly accurate. It is really putting the blame at the wrong door. If the organs of sense are in a healthy condition, they are incapable of deluding us. No mirror reflects the image of an object placed before it with more perfect accuracy than do our senses the impressions made upon them; but they receive with impartial fidelity the impression from objects without and those which originate within. In hallucination, the affection of the organs is exactly the same as if it were caused by the actual object. The error arises from the mind being unconscious of the mode in which the impressions are produced. It cannot discriminate between the true and the sham perception. The delusion, then, is chargeable, not to the senses, but to the mind itself. But a sane mind always retains the power, by a subsequent process of reasoning, to correct the first erroneous judgment. The rectification, however, is not always immediate; sometimes it is not effected till the person has been led into some rather awkward predicament. A man subject to ocular hallucinations was walking along one of the streets of

Edinburgh, when he was very much astonished to see the familiar street divided into two halves, one of which presented a steep ascent, and the other a steep descent. Though utterly bewildered, he concluded that the uphill road was the one he ought to choose; accordingly, he began to toil along the level street as if he were going up a hill, to the amusement of the passengers, who appeared to him equally to be toiling up and down an ascent.

In chronic cases, the sufferer is often puzzled to determine on the instant whether a doubtful appearance represents a real object or not. An eminent physician in Edinburgh, lately deceased, was assured by a lady that if she were summoned as a witness in a court of justice, she could not swear whether what she saw was real or illusory. In such circumstances, the victim is driven to invent some ready test by which to discriminate the real from the apparently real. In the case last mentioned, the lady would never venture to place a glass or plate on a table without previously feeling if there was a table there, or to sit down on a chair without satisfying herself that it was not a spectral one. But to verify the information derived from one sense by an appeal to another, is not always convenient or possible. When the tactile test is not available, others have therefore to be tried, though none of them can be said to be always reliable. One gentleman was in the habit of turning his back on any appearance of which he had a suspicion; if it was a reality, he lost sight of it; if merely apparitional, he saw it as before. A test suggested by Sir David Brewster is to press one eyeball down with the finger, and thus change the axis of vision. If the image is real, it will, of course, be doubled; if merely mental, it will remain single. A lady was accustomed, in cases of doubt, to look into a mirror. If the figure had its back to the mirror, and its face to her, she concluded it was real; if it had its face to the mirror and also to her, that it was phantasmal.

Perhaps the most extraordinary fact in regard to the subject of ocular spectra remains to be stated. It appears that some individuals possess the faculty of evoking them at will. On such persons Hotspur's famous sarcasm, substituting 'spectres' for 'spirits,' would fall pointless, for they do come when called on. Abercromby mentions the case of a gentleman with whom he was acquainted, who could at any time place before him a phantom, by fixing his mind intently on the person whose image he wished to produce. Having once evoked the figure, he had no power to make it disappear, nor could he say how long it would remain. At last the phantoms appeared unbidden, and he was never at first certain whether any person he met was real or spectral; but after a little attention he was generally able to distinguish the substantial from the shadowy by the former being usually better defined than the mental image. He hardly, however, trusted wholly to his eyes, but tested his visual impression by touch, or by hearing the sound of the footsteps. Though subject to hallucinations all his life, this man was quite healthy in body and sound in mind. Dr Wigan states that he was acquainted with a very amiable and intelligent man who possessed the power of putting before him his own image. He often laughed heartily at the sight of his *eidolon*, which to him appeared always to laugh. For a long time

this was a source of amusement and pleasantry to him. But the result was deplorable. Hallucination gradually passed into delusion; little by little, he persuaded himself that he was haunted by his double; his other self held obstinate discussions with him, and, to his mortification, sometimes vanquished him in argument, at which he prided himself on being an adept. Wearing out at last, he resolved not to begin a new year; placed in separate papers his daily expenses for a week, paid his debts, awaited pistol in hand the night of 31st December, and the moment the clock struck midnight, blew out his brains. That this extraordinary faculty, is one that cannot long be exercised with impunity, is also illustrated by the case of the gifted but eccentric poet-painter and engraver, William Blake. His mode of portrait-painting was certainly peculiar. His own account of it to Wigan was as follows: 'When a model was presented, I looked at it attentively for half an hour, sketching occasionally on the canvas. I had no need of a longer sitting. I put aside the drawing, and passed to another person. When I wished to continue the first portrait, I took the subject of it into my mind, I put him in the chair, *where I perceived him as distinctly as if he had been there in reality*—I may even add, with form and colour more defined than in the original. I contemplated from time to time the imaginary figure. I suspended my work to examine the *pose*: *every time I cast my eye on the chair I saw the man*.' In one year he stated that he had painted three hundred portraits, great and small. But the Nemesis of an overstretched imagination inevitably overtook him; by degrees he lost the power to distinguish between the real and the imaginary sitters; his mind became confused and unbinged, and he spent thirty years in an asylum.

Hyacinthe Langlois, an intimate friend of Talma, relates that that celebrated actor informed him that when he came on the stage, he was able by force of will to make his large and brilliant auditory disappear, and to substitute skeletons in their place. When his imagination had thus filled the theatre with these singular spectators, their reactive power on himself was such as often to give his personations a most powerful effect. Sir Thomas Browne, Jerome Cardan, and Goethe also possessed in various degrees this remarkable faculty. It implies the possession of great power of rapid observation, of a memory tenacious even of minute details, of the ability to withdraw the attention completely from the immediate surroundings, and to concentrate it on the mental idea, and of great force of imagination. That the exercise of such a complex faculty must involve a severe psychical strain, is evident from the frequency with which it throws the delicate mental machinery out of gear.

It is curious to note the number of men eminent in literature or prominent in history who have been the subjects of temporary or persistent hallucinations, or of whom, at all events, such an allegation has been made. To mention only a few: Socrates had warnings from his demon; Brutus saw his Evil Genius before Philippi; Cromwell is said to have been visited by a woman of gigantic stature, who assured him he would yet be king! Napoleon believed in his star, at which General Rapp found him on one occasion gazing in rapture; Joan of Arc heard voices and had revelations; Lord Castlereagh saw on one occasion a spectral

child; Ben Jonson informed Drummond of Hawthornden that he had passed a night in looking at Tartars and Turks, Romans and Carthaginians, fighting round his great toe; Malebranche heard the voice of Deity; Lord Herbert of Cherbury heard an agreeable noise in the heavens, which he accepted as a favourable response to his prayer for direction in regard to the publication of a book; Pope and Byron saw each on one occasion a spectre. The cases of Mohammed, Luther, Pascal, Ignatius Loyola, Colonel Gardiner, and a host of others will occur to the reader as being probably examples of hallucination determined by that most prolific source of illusions, strong religious feeling.

It is noteworthy, as bearing on the theory of hallucinations, that they are not always reproductions of past states of consciousness. Bostock the physiologist states that on one occasion he had constantly before him a human figure, the features and dress of which were as distinctly visible as that of any real existence, and of which, after an interval of many years, he still retained a lively impression; yet he had never been able to discover any person whom he had previously seen who resembled it. A theory which would cover the whole facts must account not only for the renovation of former mental states, but for the presentation of new combinations effected by the imagination. Upon the recondite question of the ultimate causation of these illusions, however, we cannot enter. We know the mode by which the senses are impressed by objects external to them; but the question in hallucination is, in what way they can be affected from within so as to give the effect of impressions from without. There is one part of the problem which to the popular mind may appear the most inexplicable, if not the only thing needing explanation; we refer to the apparent objectiveness—outsideness—of the mental image. How can a mere subjective sensation appear to have an objective existence? This difficulty, however, vanishes on reflection. The image of a body impressed on the retina—no matter in what way that impression has originated—must necessarily, in obedience to the laws of vision, be perceived as an object apparently external. The real difficulty, then, is not to account for the simulation of reality—that is a necessity arising from the very conditions of sensation; the puzzle is to explain the production of the sensation itself, a problem for the complete solution of which we do not possess the necessary data. But what may be called the proximate causes of hallucination—that is, the physical, mental, and moral condition under which they are generated—lie within the sphere of useful scientific inquiry; and their study is one eminently helpful to a proper understanding of some of the darker pages of history.

A GOLDEN SORROW.

CHAPTER XLII.—'OUR CLIENT.'

THE days before the parting passed away without any remarkable incident, until the last but one had arrived.

Walter, whom Miriam believed to be more conscious of his own state than the others supposed, had assented to the expedition to Germany without expressing interest or curiosity. He was lying

on a sofa in the drawing-room, alongside of a table covered with prints and portfolios of water-colour drawings, which it amused him to look at, when he was not too listless and sleepy to be amused by anything. Miriam had been sedulously cultivating this taste of his for some time, and took care to have new prints, photographs, and various kinds of drawings provided for his gratification. On this day, Florence had gone out, about some final preparations, Miriam having promised to remain with Walter during her absence. He was rather fretful—an unusual symptom—and Miriam had to apply herself earnestly to the task of amusing him, and to withdraw her mind, by a strong effort, from its own thoughts and troubles.

She had placed some new specimens of photography in a bright-coloured case, conspicuously within his reach, and after some time he noticed them. It was always vain to endeavour to force his attention; it must be suffered to take its own desultory course. He sat up, leaned his elbow on the table, and his head on his hand, and began to turn over the contents of the case. They were landscape photographs, selected from striking scenes, and all quarters of the world. Miriam, pretending to be busy with some needle-work, watched him intently. His face was less vacant than usual; there was more purpose in his eyes.

'Sand,' he murmured, half aloud, 'and great blocks of building—the Pyramids, I suppose.' He looked long at each, and laid them by with care, but without reading the inscriptions on the back. 'Great trees, branches high up, and huge stems, and a sheet of white water. They can't bring water out rightly, except the still, deep pools. The sea and the moon—only the two of them, all alone—I have seen them so, except for our speck of a ship, and I have seen the sand-plains too.'

Miriam's hands were motionless now, and she softly drew nearer to him.

'A great desert place, and a dead camel, plenty of bones about—I have seen something like that too.—What's this? Not a photograph. How has it got in here, among the photographs? Miriam!'

'Yes, dear—'

'Look at this. This is a drawing—a pencil-drawing: it has no business here, you know.'

She came to his side, and looked at it.

'I know this place too,' he continued. 'This is the turn, round the edge of the bluff, as you came up from the valley; and there's the hut, and the great rock on the creek.' He pointed to each spot on the drawing in turn, as he named it, and there was a gleam of the old brightness in his changed face.

She listened, following his hand.

'There's the ravine. Do you see this little path up the face of it, and those two rocks? I could not climb up there now, Miriam; and I could not scramble up on that rock' (he put his finger on it) 'with the other just over my head' (he put his finger on that too), 'as I did then.'

'What did you do it for, Walter? Were you looking for gold in the rocks in the face of the ravine?'

'No, no,' he answered testily; 'I was not looking for gold there. There isn't any. I don't know

why I climbed up between the two rocks, but Daly knows.'

'Did you hurt yourself? Did you fall?'

'No. Why should I fall? It was a good place.' He laid the drawing aside, took up one of the photographs, and went on looking at it, and talking to himself about it. Miriam removed the drawing, on the pretext that it ought not to be among the photographs, and carefully stuck a large pin into the spot which Walter had indicated.

Lawrence Daly and Mr Martin dined at Mrs St Quentin's house that evening. After dinner, Miriam shewed Lawrence the drawing, pierced by a pin, and told him how she had tried this experiment. She repeated to him exactly what Walter had said, and added: 'Whether I have succeeded or not—whether his memory, faintly aroused, is true or false, I cannot tell or guess. We shall never have any clearer indication than this.'

Lawrence looked long at the drawing. 'You have done this very ingeniously,' he said. 'I have not the least doubt that in this spot Walter hid the nugget. Perhaps I shall go in search of it some day, when I need not care about finding it, or finding that it has been washed away into some other hiding-place by the flood, there to lurk for thousands of years more, until, it may be, a race shall possess the earth who will not set any store on nuggets.'

Then they talked no more about it; and Miriam, seeing that he cared little for this clue, and did but assume an interest, that he might not seem indifferent to the effort she had made, wondered why it was so.

They were to part that night. Miriam, Florence, and Walter were to begin their journey early on the following morning. Florence and Daly talked for some time together, apart from the others, and then Daly came forward, while Florence left the room, to take leave of Miriam. The one was as cold, as constrained as the other.

'I hope to see you again next year,' said Lawrence, 'and to find things better. Good-bye.'

'I have your promise, Mr Daly—you remain in England for one fortnight from to-morrow. We—we may have to send for you, you know—if Walter should not bear the journey well.'

'I trust there is no danger of that; but you may rely on my promise. Once more, good-bye.'

If she could have trusted herself to meet his eyes, she must have read in them that he loved her, and have been made—what she believed impossible—more wretched than she then was. But she did not look at him, she only gave him a cold, impassive hand for a moment, and, to his 'Good-bye,' replied: 'Farewell.'

Miriam left her home with the feeling of one driven away from paradise, after a glimpse of the radiant wonders within its gates. What dross had she been taking for gold all her life until now! what a vain shadow had she been walking in! how hollow had been her assurance of peace, where there was no peace! how base, poor, utterly foolish her ambition! And this was not the worst of it—oh! how far it was from being the worst! This might have been set right; she might have learned the truth, and put away her delusion for ever; she might have arisen from it purified, ennobled, but for the base and hateful sin which had sullied her soul! To stand a criminal before the man she loved, the man who had taught her what was the

meaning of life to women who were not such wretches as she—a vile thief, who had robbed him, to feel that the only misfortune which could be added to her destiny would be his love, which she might once have blamelessly tried to win by every harmless woman's art—this was her punishment! On her knees, in the dead hours of the night, with eyes which could weep no more, with clasped hands and bowed-down head, she acknowledged its justice. It never could be lessened; the sentence against her never could be repealed; and with her sense of the depth of her sin, there must ever grow her comprehension of its astounding folly.

The travellers set forth on their journey; and Miriam's fine new house—the decorations on the walls and ceilings were hardly dry, and much of the furniture was not unpacked—went into the dingy livery of an 'out-of-town' family's mansion, while all London was in the full tide of its life, in the early summer. Lawrence Daly went every day to look at it, while he was waiting for the expiration of the fortnight during which he had promised to remain in England. One night, very late, in a fit of restlessness, he took his way to Lowndes Square, and fell to studying the house after a fashion which made it fortunate for him there was no active and intelligent policeman in sight. It was after all reasonable hours for any light to be visible in the basement story, or at the top of the house, where only, under present circumstances, lights ought ever to have been seen. And yet there was a light in Miriam's boudoir, and the window-sash was open, with the curtains drawn behind it. Daly watched the light, but no figure passed between it and the window. After some time, it vanished; and then, in the darkness, he heard the window shut and barred.

'A servant, I suppose,' thought Lawrence, as he turned away, 'trying what it feels like to sit in a boudoir, and keep fashionable hours.'

The following day brought Lawrence Daly a letter from Messrs Ross and Raby, solicitors, of Lincoln's Inn, to the effect that they had been instructed by their client, Mrs St Quentin, to request him to meet a representative of the firm at her house, in Lowndes Square, on the earliest day which it would suit his convenience to name, for the purpose of receiving from them, on her behalf, a communication of importance.

So, then, he was to learn the meaning of the promise she had exacted from him. But he was not to learn it from herself, and he felt but a languid curiosity respecting its interpretation. He wanted to get away. He believed that he should conquer the vain longing for a love that never could be his by change of scene and the resumption of his roving habits. This is a notion which men entertain more commonly and more successfully than women. Miriam had no such hope to sustain her; but she had not the wish either. She would not have loved him less, if she could; in her great punishment was her only consolation.

Lawrence replied to Messrs Ross and Raby, that he would be at Mrs St Quentin's house at noon, the next day, and passed the intervening time in vague and vain conjectures. He kept his appointment punctually, and found Mr Ross, a clean-shaven, pompous gentleman, and Mr Clissold, already arrived. The three gentlemen met in the

dining-room, a large and handsome apartment, which had been apparently taken out of curl-papers for the occasion. A japanned box, of imposing dimensions, occupied a conspicuous place on the centre table, and two large plate-chests stood in a window. A flat leather-bound book, marked 'Inventories,' lay beside the japanned box; and a mass of keys, with ivory labels attached to them, completed the accessories to a scene, entirely inexplicable to Lawrence. He had entered the house with a faint, irrational hope that Miriam might be there—he felt how absurd it was to suppose she would return suddenly from Germany, and, if she had done so, that there should be any mystery about it—and yet he was keenly disappointed when the two strangers only met him. The first formal civilities over, Mr Ross proceeded to discuss the business on which they had come. Mr Daly was already aware that he was charged with an important communication to him, on the part of Mrs St Quentin, and he would make it as briefly as might be.

'You are a relative of the late Mr St Quentin?'

'I am.'

'His nearest relative, and his heir-at-law?'

'I am.'

'Mrs St Quentin ascertained, after her late husband's death, that he had been endeavouring to find his heir-at-law. Some memoranda fell into her hands, shewing that he had set on foot inquiries with that purpose, and that if he had succeeded, he would have bequeathed to his heir-at-law, yourself, his entire property, with the exception of an annuity of two hundred pounds to her, for her lifetime.'

'Impossible!' interrupted Lawrence; 'he could not have had any such intention. He never'—

'Pardon me, Mr Daly,' continued Mr Ross, gravely checking him by an impressively uplifted forefinger. 'There is no doubt at all that the late Mr St Quentin *did* entertain this purpose. Why he should have changed it so shortly before his decease, it is impossible to tell; but Mrs St Quentin believes it was because a letter which you wrote to him, announcing your intention of coming to England, did not reach him, and therefore he suspected the person who professed to have gained information about you—a person named Deering—was imposing upon him, and that you had not really been found. When Mrs St Quentin passed through Paris the other day, she had an interview with Monsieur Caux, an agent who had acted for Mr St Quentin, and whom you saw, I think?'

'Yes, I saw Monsieur Caux,' said Lawrence, quite bewildered.

'He confirmed Mrs St Quentin's previous impressions, by his account of Mr St Quentin's interviews with him, and gave her this letter, which, no doubt, you will recognise.' Mr Ross handed to Lawrence his own letter, which had not reached its destination for months after it was written. Lawrence took it from him, glanced at it, and handed it to him again.

'Under these circumstances,' resumed Mr Ross, with added pomposity of manner, 'Mrs St Quentin, having become convinced that this accidental delay, leading Mr St Quentin to believe he had been deceived, constituted in reality his sole reason for making a will in her favour, as he did—Mr Clissold drew up the instrument'—Mr Clissold, sedulously fitting his finger-tips together, as he sat

by the table, with his elbows upon it, bowed—'a very short time before his decease, and that his own views and wishes, but for this accidental delay, would have remained unaltered, has renounced the legacy in your favour.'

'Impossible!' exclaimed Lawrence, pushing back his chair, and starting to his feet. 'It cannot be. This is an absurd, a fatal delusion. Nothing on earth should induce me to listen to such a thing! Why should he not have left all his property to his wife, under any circumstances?'

'We cannot enter into that question,' said Mr Ross; 'we have only to state our client's views and intentions. Mrs St Quentin instructed us some time ago, and last Tuesday executed a deed of gift in your favour: here is a copy of it'—he raised the lid of the box, and indicated a folded paper—'having returned from Germany for the purpose. By this instrument she conveys to you absolutely the whole of the property bequeathed to her by Mr St Quentin, and of which we are prepared to give you all particulars, with the exception of a sum of five thousand pounds, deposited in the Bank of France.'

'And do you suppose, for a moment, gentlemen, that I shall accept this—this unheard-of sacrifice from Mrs St Quentin, from a lady who owes me no consideration whatever? I cannot assure you emphatically enough that I had no expectations whatever from Mr St Quentin, and that in no communication which passed between his agent and Mr Deering, or myself, did he give the slightest indication of an intention to do anything for me. I give you my word of honour, I had no hopes, no disappointments in connection with this matter.'

'As I said before, Mr Daly, we cannot enter into this portion of the subject. I have now fulfilled Mrs St Quentin's instructions. It only remains for me to say that Mr Clissold will go into particulars with you. There are complete inventories of all plate and other valuables in this house, and also in the apartment in Paris; Mr Clissold will hand over the leases and other documents; and, as I have another engagement, I will now take my leave.'

'Stay one moment,' cried Lawrence. 'I am quite unfit to speak of this now; I am astonished, shocked beyond measure! I must see Mrs St Quentin without an hour's delay. Where is she? She has been here in this house, has she not?'

'She was here for three days,' replied Mr Ross, 'making these final arrangements. But she left England yesterday morning.'

'To return to Germany! To her brother and his wife?'

'I really cannot tell you, Mr Daly—I do not know. Mrs St Quentin did not furnish us with any address. Her business with us is all completely and most satisfactorily wound up, and we know nothing further about her.'

'But you will continue to act for me?' asked Lawrence eagerly. 'You will consider me your client?' Mr Ross signified that Ross and Raby would be very happy to do so. 'And you will bear in mind that I distinctly refuse to accept this deed of gift; and that, if I accept the temporary care and management of Mrs St Quentin's property, it is only in the character of her representative, and in her interests.'

'Very good,' replied Mr Ross; 'that is a matter for your own decision entirely.' And then he took

leave of Lawrence, who remained with Mr Clissold, surrounded by the signs and tokens of his astounding and unwelcome change of fortune.

Mr Clissold proceeded to detail the particulars and the dispositions of all this wealth—of which Lawrence had so often thought, in old times, with curiosity, and some little envy, doubtless—in his dry, dull, and business-like fashion, and Lawrence listened, with his mind in great perplexity. Every trivial incident of his first interview with Miriam returned to him, and, feeling that there was a contrast, never lessened and never relaxed, between her reception of him, and her manner to him, from the moment in which he revealed his identity, until that of their parting: he vaguely scented a mystery beyond the already mysterious circumstances in which he stood. This absolute renunciation of the wealth she loved, and had bought at such a price, on the romantic plea of carrying out the supposed intentions of a man who had contradicted that supposition in the most positive manner by a will in which no name but her own was mentioned, was wholly inconsistent with Miriam's character, as he knew it, by report and by experience.

Among the objects of value in the room was one to which Mr Clissold directed Lawrence's attention in its turn. This was a strong teak box, which contained a quantity of gold and silver plate, and articles of ornament of fine Indian workmanship. Three trays lined with cloth contained these precious things, fitted into sockets; and Lawrence turned them over with some curiosity, until he came to a space, like that into which a looking-glass is usually fitted, in the lid of a dressing-case, and which was occupied by a portrait on ivory, in a very elaborate gold frame.

This portrait, evidently the work of a native artist, represented a good-looking elderly man, and was, in fact, that of Mr St Quentin, as Lawrence knew, from its likeness to a photograph which he had seen in Florence's book. Mr Clissold admired the frame, commented upon the combined richness and roughness of its workmanship, and said: 'One of the family, I suppose?'

'Mr St Quentin himself,' said Daly.

'O no,' said Mr Clissold. 'Didn't you know Mr St Quentin?'

'I never saw him.'

'I saw him just before he died, you know. He did not look so ill, considering. But that's nothing, I'm told, in cases like his; they pop off in a minute, when they're seemingly all right. But he was not the least like that. Different complexion, different eyes. Blue eyes he had, and a pale skin, and didn't look within ten years, even then, of the age of that picture.—What's this? A pipe bowl and stem, with turquoise tassels. Beautiful, ain't they?' Mr Clissold clicked his boots together under the table, in his admiration, and went on to the other rare and costly objects, unconscious that Lawrence was staring stupidly at the picture, a faint dread, without form or consistence, stirring at his heart.

When Mr Clissold's task was concluded, and he had left him, Lawrence summoned the housekeeper, who had been, he found, prepared by Miriam for his probably coming to reside in the house. He told her he should only occupy the rooms on the ground-floor, and that the remainder of the house must remain shut up for the present. After another

interview with Mr Ross, Daly left England for Germany.

'Do you really, seriously mean that you think Mrs St Quentin has done right, Florence, in bestowing upon me wealth which I don't want, and which I won't use, in departing utterly from her husband's specific directions—never mind his intentions; *the will is a fact*—and in abandoning all her duties, in the way she has done?'

'I not only think she has done right, but I cannot for a moment imagine Miriam's acting in any other way, when she discovered that Mr St Quentin would have made a different will, had he known what she came to know.'

'And yet the same woman, with this far-fetched sense of honour, and extraordinary delicacy of conscience, married Mr St Quentin for the sake of his money, which she relinquishes for a scruple like this!'

'That is true,' said Florence, little thinking what a truth she was uttering; 'but Miriam sees things, Miriam understands right and wrong, far differently now.'

'Well, you women are incomprehensible. You, too, are against me. I will say no more but this: I shall never abandon my search for her, never abandon my hope of finding her. Walter, you tell me, is in ignorance of all this.'

'Yes,' she answered, with a heavy sigh; 'it would have been useless to tell him. He could not have understood it.'

'No, indeed, nor any one else.'

'Do be persuaded. Let Miriam's intention be fulfilled. So long as you do not accept it, fully and frankly, you will make her wretched, and part us from her, for she will never put herself within reach of seeing you until you have done so.'

'It is vain to try and persuade me, Florence; I am much more resolute in my purpose than she is here, though she thinks she has made it irrevocable—stronger by all the added strength of my motive.'

She looked surprised, but asked no question. He continued.

'You persist in refusing to tell me where she is?'

'Yes, I persist. I promised her. I cannot break faith with Miriam.'

'She will not remain long away from you. Mind, I warn you, I will have your house watched.'

She smiled faintly. 'I am not at all afraid of your doing anything of the kind.'

Shortly after, they parted, and Florence wrote to Miriam a full account of the interview.

'Never mind, dearest Florence'—so ran Miriam's reply. 'I only ask a year's secrecy; and, if a woman's influence should intervene before, not even that. If he falls in love and marries, or intends to do so, I need not care how soon after he finds me out. Hiding is so easy. He never saw me except in my weeds; I have laid them aside; and he passed me yesterday on the platform at London Bridge—the platform, Florence, where you and I parted with Walter—so close, I had barely time to put my veil down.'

CHAPTER XLII.—THE TESTIMONY OF THE ROCKS.

To search for a person who has a strong motive for concealment, without any such previous know-

ledge of that person's tastes and habits as would supply a 'system' on which to work, is not an easy undertaking. Miriam had no friends in London, and Lawrence had no knowledge of her mode of life in Paris to supply him with data for his pursuit. The servants left in the house in Lowndes Square were all strangers; and Monsieur Caux, to whom Lawrence applied, was entirely unacquainted with Mrs St Quentin's habits or associates. He had seen her only once—on the occasion of his giving her Lawrence's own letter; and he knew nothing, except that he had been indirectly employed against her interests, and that he did not gather from her manner that she resented that circumstance.

To his first attempt, by letter, to induce Florence to reconsider her resolution, he received a reply which made him desist. If he made any further reference to the subject, Florence must close their correspondence, and she begged him to spare her so great a sacrifice. If Lawrence had not had lurking in the unexplored recesses of his mind, something which was, and yet was not, a suspicion of the truth, an impression which he would not investigate, and could not banish, he might not have shrunk, as he did, from the employment of any other person's services in this matter. He had indeed no right to set detectives on the track of a lady, in no way bound to admit him to her presence, if she chose to hold herself aloof from him; and yet he might have yielded to the temptation to do so, trusting to her pardon, if he had not been tormented by a vague surmise that there was in this mysterious restitution and disappearance something more than the avowed motive. The last person who had seen Mr St Quentin alive had not recognised the portrait which Lawrence knew to be that of Mr St Quentin, and that person had drawn up Mr St Quentin's will! What did all this point at? He dreaded to ask the question of himself, he dreaded the answer. There was a method by which he felt certain he could force Miriam to communicate with him, to come out of her concealment at all events for once. It was by putting an advertisement in the *Times*, addressed to the persons who witnessed the will of the late Mr St Quentin. But he could not do this. It went too near to the half-uttered whisper of the truth within him; it might possibly involve Miriam in danger, disgrace—and he loved her!

Lawrence went to Doctors' Commons and read the will. There was nothing to be learned from that. He went to Dover, and found that the head-waiter, who was one of the witnesses, was still there. He was easily induced to talk of the old gentleman who died at the hotel, to the dismay of the proprietor, so very unexpectedly, and of the beautiful lady who had so much courage and presence of mind. He recollected the witnessing of the will perfectly, and that the gentleman did seem very ill indeed, though not so bad as to prepare any one for what had happened. There was only one circumstance connected with the event which no one thought of mentioning, and which had never come to Lawrence's knowledge: this was the visit of Mrs St Quentin's brother to the hotel, just before the death of her husband. So trifling a fact did not hold a place in any one's mind, and thus the clue escaped Lawrence's grasp. He had taken the Indian portrait of Mr St Quentin to Dover, and displayed it conspicuously in his

sitting-room. The head-waiter was looking curiously at the frame while he was answering Daly's questions, but without the slightest recognition of the face. His silence was enough for Lawrence; he would not ask him a needless question.

After this, great discouragement fell upon Lawrence. He was not a man to grow morbidly weary of his life because its lines had not been laid as he would have had them; but he felt the position in which Miriam's unaccountable rashness had placed him, false and irksome. The influence of the man who had made his youth desultory, and dependent, and unsatisfactory, was still pursuing him, and his future threatened to be as desultory and as unsatisfactory as his past.

Why should he not go away, and give it all up, putting his affairs into the hands of Messrs Ross and Raby, letting the London house, and leaving the money, which had hitherto done no one any good, to accumulate until such time as he should entirely solve the mystery, or Miriam should have come to her right mind? Here was an easy way out of all his difficulties, and into some new mode of life, which should dissipate the dreariness and perplexity in which he was living; with only one drawback to it, one little objection, which neutralised every advantage. He loved Miriam, and no life unshared by her could be any more bearable than this, into which there was, after all, a chance that she might come some day.

Lawrence went to the Firs, and wandered all over the empty rooms, and all the places which Walter used to talk about, and with which Miriam was associated. No one there could tell him anything about Mrs St Quentin, when he inquired, in a casual way. There was a story afloat that another will had been found, and that Miriam had been dispossessed; and, as no one in the neighbourhood knew the particulars of Mr St Quentin's death except Mr Martin, who did not think proper to repeat them, the explanation was accepted. Lawrence staid two days at Mr Martin's house, and had no reason to suspect that he was better informed concerning Miriam's place of abode than himself. One suggestion, not directly bearing on the subject, but which had an attraction for him, Mr Martin made. It was in speaking of Miriam's girlhood, and the many adverse influences which had warped her character, originally noble, as her act of restitution, however ill judged and excessive, proved, that Mr Martin said: 'That Miss Monitor was an honest sort of person enough. I don't like schoolmistresses in general, and I think they can hardly be disinterested, under a special miracle; but she was a good friend to Miriam, on the whole.'

'Of course she does not know where she is!'

'I should suppose she does not. Miriam would naturally calculate upon your going to her in the first instance, and she would hardly burden her with such a confidence. Quite enough to impose it on Florence, I should say.'

Miriam would naturally calculate upon his going to Miss Monitor in the first instance! And he had not done so, and it had never occurred to him! He did not say so to Mr Martin, but he determined the next day should find him at Blackheath. He had a kindly recollection of Miss Monitor. Suppose the good-natured, cheery old maid were to find out his secret? What then? He was so solitary and so miserable, he hoped she might, or that she might give him some encouragement to

reveal it to her. At least there would be some one to whom he might talk of Miriam.

Miss Monitor's cottage at Blackheath was a pretty little dwelling, full of nooks and crannies, which were all filled with pretty appropriate furniture, and combined a delightful appearance of age with every modern convenience, and no small degree of elegance and refinement. The rooms opened into one another, and the longest flight of stairs in the building numbered only ten low broad steps. The prevailing tints of the furniture and hangings were warm reds and cool greens, and all the ornaments were of a quaint simple fashion; with one exception, which caught Lawrence's eye as soon as he was ushered into Miss Monitor's drawing-room, apparently to the displeasure of a very handsome gray parrot, whose cage stood at the open glass door-window leading into the secluded and richly cultivated garden, fenced off by a wire railing from the field sacred to Miss Monitor's cow. This exception was a cabinet of ebony, ivory, and silver, much too splendid for its surroundings, and which Lawrence instantly remembered to have seen—where? Surely it had stood on a table in Miriam's drawing-room, and Miriam had touched it on that first day! He was looking at the cabinet, full of reminiscences, when the servant who had ushered him into the drawing-room returned, and, with much confusion and trepidation, informed him that she had been mistaken in telling him that her mistress, Miss Monitor, was at home. She was not aware of it, but Miss Monitor had gone out, and was not expected to return until evening. The girl spoke hurriedly, and held the door wide open, to intimate that the intruder was expected to take his departure instantly. But this did not suit Lawrence's views. 'I had something important to say to Miss Monitor,' he observed; 'since I cannot see her, I will write it.' Then he seated himself at a writing-table, opposite the open glass door, and began to write, while the unhappy parlour-maid looked on helplessly, the very image of misery and irresolution.

Presently, Lawrence heard a step upon the walk outside the window, and paused for a moment. It was a loitering, proprietorial step, and the two handsome Skye terriers, who lay close to the window-sill, in amiable proximity to the parrot, did not stir or bark. There was a snipping sound, as of the person outside cutting flowers from their stems, and presently a figure stood in the open door-way, arrested by the sight of the man at the table, and from whose unnerved hands tumbled down a basket of gorgeous roses, which fell into the parrot's cage, and on the dogs' noses, and all over the carpet. Then the parlour-maid fled, and shut the door, and Lawrence looked up, and saw—Miriam!

Yes, Miriam, whom he had been seeking vainly, and who had been, all these months, within his reach! Miriam, more beautiful than he had ever seen, or imagined her! Miriam, in whose face he read, even in the instant before she turned and rushed away, something more than surprise and fear, something very different from horror. She rushed away; but in an instant Lawrence followed her, came up with her at the wire paling, seized her by the wrists, and fairly dragged her, with the force and determination of any savage, minded that his prey shall not escape him, inside the glass door. Until then, neither spoke; but when he had pulled

her in, and stood, still holding fast her wrists, he said one word to her: 'Miriam!'

'Let me go, instantly, Mr Daly! How dare you?' she gasped.

He loosed her wrists; he stood in the doorway, and he answered her: 'How dare *you* do what you have done to me for many a day? How dare *you* make me so miserable, and condemn me to a false position, to satisfy your own pride, or your own fancy?'

'I did not,' she replied solemnly, and recovering her self-possession completely. 'It was neither my pride nor my fancy which dictated what I have done.'

'Then tell me what it was?'

'You have no right to command me in that tone. The explanation I gave you is the true explanation. From the resolution I then made, you shall never move me. By what right do you question me further?'

'I will tell you presently. Sit there.' He placed a chair for her; she took it mechanically; and he stood before her, not releasing her for a moment from his gaze. 'You have to answer me some questions first. Where have you been since you returned from Germany, and since you sent your lawyers to me with your absurd story about Mr St Quentin's intentions?'

'It—it was not absurd,' she faltered.

'It was; and it was cruel, cruel to yourself and to me. But that is not my question. Where have you been?'

'Here.'

'Here! Good Heavens! so near me, when I have been wearying my soul with conjecture, and sickening my heart with hope, always cheated and deferred! Thank God, at length, at last, for its realisation!'

She looked at him with timid surprise; she blushed and trembled.

'I see; I know why you did this: being so simple, and so audacious, you calculated, rightly, that I should never think of it. And now I have found you.'

'You shall not make me stay here. I will go away. You have no right to pursue me, Mr Daly. I am free to do as I choose, and to decline such acquaintances as I think fit.'

She was making a very poor fight of it—and she knew it. This was the most wretched, the most contemptible of shams! What would you have! Here was a guilty woman, who had laid all her own life waste, struggling in the strong grasp of her first love, in the presence of the man from whom she had fled, because he it was whom she had wronged, and she had learned that he was her master.

'You are *not* free,' he replied; 'at least you are not free *from me*! And I will tell you why, Miriam, and in doing so, I will answer the question you asked me just now: "What right have I?" I will tell you why. It is because you have bound me to you, and thus cannot be free yourself! It is because no will of yours, no flight of yours can sever me from you! It is because I love you, Miriam, absorbingly, devotedly, as I have loved you since I saw you, as I believe I loved you before I ever saw you, and because I will win you—you, who, I know, have never loved—if it is in love, or man, to win woman!'

She shrank back in her chair, and put her hand

out to keep him away. Her eyes closed—a strong shudder ran through her frame; she made a desperate effort—an effort which frightened him—to keep from fainting. At length she stammered out: ‘O my God! Can it be? You do not know what I am.’

‘I do. I know you are the queen of all women to me, the one woman in all the world; my love, my lady, my life! Miriam! listen to me; don’t reject me—don’t tell me the hope that has stirred my heart since I saw your dear eyes shining on me yonder, is a delusion, like all my life hitherto—the hope that you might come to love me!’

Her hands were clasped over her face now, and he gently tried to remove them. But she rose, suddenly slipped by him, and stood upright, between him and the door, looking steadily at him.

‘Hush!’ she said, almost in a whisper, and with one hand pressing heavily on her breast, as she steadied herself by catching the mantel-piece with the other, in the well-remembered attitude of their first interview. ‘Do not say what I must not hear; do not say what it will break my heart to remember. You do not know, you cannot conceive, how you are torturing me, how utterly beaten, defeated, a wretch I am! There is no escape for me now;’ she was growing calmer with every word, and here her eyes shone with the fire of a desperate resolution. ‘You, and yet, not you, but my fate, and God’s eternal immutable justice, have hunted me down at last! I have repented, but it does not avail; I have made restitution, but it is not enough; I must make confession too, and be for ever in your eyes what I am in my own.’

‘Miriam! Great Heaven! what can you mean? What can you be in my eyes but the best beloved among women?’

Again she waved him off, and something majestic, yet supremely mournful, in her gesture held him motionless.

‘I can be what I am, a woman degraded from her place among women by a base, low, and treacherous crime—a woman who is an undetected felon, at your mercy from this moment.’

Over his face there flickered the light of a sudden, terrible perception.

‘Who do you think it was that robbed you, not unconsciously, for there was no unconsciousness, save that L— D— meant Walter’s friend; Lawrence Daly—who do you think it was that did that, and did it by an act of unparalleled treachery? Who do you think it was that signed Mr St Quentin’s will?’

‘I don’t know, Miriam,’ answered Lawrence Daly, in a low, resolute voice, and made two steps towards her; ‘and I don’t care. It was not Mr St Quentin; I have known that a long time.’

‘What! You knew!’

‘Yes, I knew; and now, if you have anything more to tell me, you must tell it thus.’

She was clasped in his strong arms, she, that tall, well-grown, grand woman, in an embrace which made her feel as small as a child, as weak as a reed, and yet filled her with an awful joy, and a sudden glorious fear, as of one—she thought afterwards, when thought could take form in her mind—who wakes in heaven. Her head was bent back by the clasp of his arms around her figure; and his kisses, full of mercy and of love, stilled the sobs which shook her convulsively, as his lips gathered

the tears from her eyelids, and his long silken beard hid her face from him. There was no need for Miriam’s conqueror to ask the lover’s question. Lawrence Daly never did, in fact, then or afterwards, ask her if she loved him. There was utter surrender in the first helpless sob which heaved up her heart against his breast, and in the quick shudder with which she nestled there.

Visitors are plenty in the Golden State of late; mere tourists, people who do not come thither to toil, or to barter, or to gamble, but merely to see one of the grandest and most beautiful countries on the face of the glorious earth, to breathe the most delicious air, to realise for once that there is a land in which mere animal living is delightful. The romance of danger, difficulty, toil, and wild adventure is indeed all but gone, but the memory of it is fresh, and many are the visitors now, brought thither commodiously by the giant railway, who have trod the plains, and toiled through the wilderness in the old time. Among the number of these, last year, was Lawrence Daly. He was accompanied by Miriam, his wife. He had said to her once, that when the great railroad which was to join the Atlantic and the Pacific together was completed, he would visit the Golden State again. And now she was there with him, the happiest of women, as she told herself many times a day, wondering humbly at the great rescue that had come to her, and striving that her life should bear fruits meet for so real a repentance as hers. She had never ceased to wonder at Lawrence’s love, and she had once told him so, venturing to touch the margin of a forbidden subject, by saying: ‘It is so marvellous—though you know quite the worst of me.’

‘*Though—or—because?*’ Lawrence had answered, with that slow, gradually beaming, delightful smile of his, which never lost its fascination for Miriam.

She enjoyed this long and varied journey to the full; and her expectation, her revelling, by anticipation, in sentiment and association, were at the full when they reached the scene of the long companionship of Lawrence and Walter. Even the remembrance of Walter’s feeble state could not obscure Miriam’s pleasure. At least, he and Florence were happy, she and Lawrence knew.

The settlement was a busy, populous, thriving place now, with a town where the huts had stood in the valley, and a goodly row of stores occupying the site of the one emporium of the days of Lawrence and Walter, with constituted authorities, and many places of good entertainment for man and beast, and one splendid hotel, to which the English party betook themselves. They arrived at night; but an early hour next morning found Lawrence and Miriam following, on foot, the windings of the valley in the direction of the lone hut. Lawrence had already inquired into the alterations made by the course of the famous flood, and was not surprised to learn that the lone hut, well remembered as the scene of the murder of Spoiled Five—to whose grave he led Miriam during their walk—had been partially destroyed by the rush of the water through the ravine and over the face of the great rock. It had been considered hazardous to reconstruct a dwelling in the same situation, and such remains as the flood had spared had been carried away piecemeal. When Lawrence and Miriam rounded the bluff, and came in sight

of the stone plateau on which the hut had stood, there was not a trace that it had ever existed.

They approached the place in silence, and stood silent for several minutes, gazing upwards at the rock and the grand sweep of the ravine.

'The hut stood just here,' said Daly at length.

'It is all exactly like your drawing,' said Miriam, whose eyes were full of tears, inexplicable, yet most easy to be understood. 'There is no change at all, is there, except the hut being gone?'

'I don't observe any.—Yes, I do, though. Look there, Miriam, to the right, up along the face of the ravine, at the exact spot where you put the pin in my drawing, where Walter shewed you the burial-place of the nugget. Are you following my directions? Yes! Then look; do you not see something which contradicts the sketch?'

Miriam shaded her eyes from the glorious Californian sunshine, and looked eagerly in the direction which he indicated.

'I think I see what you mean,' she said. 'In the drawing there is a space between those two stones, which lie one over the other there, in the ravine.'

'Exactly. Yet I know I drew their relative position correctly, and Walter confirmed it by pointing out to you the space between them. That is, of course, one result of the flood, and would confirm me in my belief, if it required confirmation, that our nugget, if not stolen, was swept away by the waters. The undermining of the earth between the upper and lower rock brought the upper one down.'

'What a pity the gold should have been lost! I don't mean to us,' she added hastily. 'We have more than enough of all the world can give, but generally speaking.'

'Yet,' said Lawrence, 'that nugget was unfortunate treasure-trove to us. It is as well as it is. You won't mind waiting here, Miriam, while I climb up that path, and take a look at the place? I want to see whether there is any spot from which a man standing on the rock, under the edge of the ravine, can be seen. I have always suspected Walter was watched that morning, intentionally or unintentionally, and that poor Spoiled Five was murdered, not by men who came for the gold to the hut, but by men who came in the night to the place where Walter had hidden it.'

'Is it dangerous climbing, Lawrence? Is there any risk of your slipping?'

'Not the least, dear; and I have not forgotten all the arts of a wild life, if there were.'

He collected some loose stones into a tolerably convenient seat for her, and ran across the plateau, was concealed from her sight for a few minutes, and then emerged, scrambling up the face of the ravine.

Miriam watched him intently, following every movement of his alert, active figure with loving eyes, and a heart filled with countless and contending feelings. Once or twice he stopped, and waved his hand, and called to her, his voice easily distinct in the pure sparkling air. She saw him spring at a tuft of brushwood, and swing himself up on the projecting edge of the lower rock, and then she saw him stoop, kneel down, lie down on the flat surface, and lay his head upon it, apparently peering eagerly into the crevices of its junction with the superincumbent mass of the upper rock. She saw him, clinging to the stone he lay on with one

hand, plunge the other and his arm up to the elbow into a crevice, which she could not see. He remained in that attitude for some minutes, then withdrew his hand; but she could not discern whether he held anything in it. Then he raised himself, and standing on the rock, formed his hands into a speaking-trumpet, and shouted to her.

She jumped up, and ran to the edge of the plateau.

'Run down the valley, and bring the first man you meet here.'

She obeyed him instantly, running fleetly but steadily, as so few women can run. On and on she sped, until, at a considerable distance beyond the bluff, she saw two men coming leisurely towards her on horseback. Then she stopped, to recover breath, to be intelligible when they should come up to her, which they did presently. She stepped out into the road, and told them that she had been sent to bring help to her husband, who had climbed the ravine, and required assistance, she did not know why. Then one of the two, a fine young fellow, who recognised the English lady he had seen in the town last night, set Miriam on his saddle, holding her with his strong arm, and strode along by the side of his horse, while the other galloped on to Lawrence's assistance.

When Miriam and her escort reached the plateau, this man was already beside Daly, having tied his horse to a bush. Miriam begged the young man who had come with her, to tie up his horse also, and join the other two. He obeyed her at once, and Miriam resumed her seat on the stones. Lawrence was not hurt, she knew that; she could wait patiently for anything more there was to know.

And now, straining her eyes in the direction of the three men, who had not much more than standing-room, and were obliged to move with evident caution, on the surface of the rock, she saw them lie down, each in his turn, as her husband had done, and grope, as she supposed, into the crevice as he had groped. Then they all stood upright and talked earnestly together for awhile, after which they descended the face of the ravine, and the two men went direct to their horses, loosed them, mounted them, and, having gravely saluted her, rode away. Not till then did Lawrence approach her with a face so solemn that it awed her for a moment out of the power of speech.

'Come away, my love!' He raised her from her seat, and drew her hand within his arm.

'What is it, Lawrence? What did you find there?'

'A dreadful thing—a human skeleton! A man on whom the upper rock, no doubt, had fallen and crushed him to death, while he was digging there between the two, unconscious of the loosening action of the flood.'

'O Lawrence, how dreadful! What can you do?'

'Nothing. Those good fellows have gone to the town to give notice of the discovery. I fear I must appear at the inquest, for I alone can presumptively identify those dry bare bones.'

'You! Who is it, then?'

'Deering—it must be he! The unhappy wretch lied to me, came hither to dig out the nugget, and met with a terrible fate.'

'O Lawrence, how awful! But how do you know?'

'Thus! We found this in a deep crevice behind the lower rock.'

Lawrence Daly placed in his wife's shrinking hands *Walter's Pocket-book*.

THE END.

THE MONTH: SCIENCE AND ARTS.

ONCE more the Royal Academy have hung their pictures, and opened their doors to critics and sight-seers, and during the past four weeks lively discussion has prevailed as to whether British art shews proof of progress; and the high prices recently obtained at picture-auctions are cited as evidence that pictures must go on increasing in value. In one particular, there is progress—namely, in the number of artists, or of those who fancy themselves artists; for, as we hear, the pictures sent in were more numerous than in the past two years, whence it follows that the number of rejections is greater than ever. Many a man who could get a respectable living as a decorator or house-painter, aspires to paint pictures, and embitters his life with disappointments.

The International Exhibition is open in the great oval 'pork-pie' and its adjuncts at Kensington, and the sights there to be seen make the displays at evening receptions of scientific and learned societies appear poor in comparison. But things have been shewn at recent gatherings which mark a steady progress towards perfection in the construction of philosophical instruments, and in other departments of science and technology. Spectroscopes are now made which excel everything before attempted. In one constructed by Browning, and exhibited at the Royal Society's conversazione, the ray travels through four feet of prisms before it reaches the eye of the observer. The tele-spectroscope is also so much improved, that we may hope ere long to hear of further and clearer explorations of sun and stars.

Mr J. Bellows of Gloucester has invented a *Rotary Table for Reckoning Wages*, which cannot fail to be useful where large numbers of men are employed. The clerk has only to turn the light cylinder, and in the columns of figures he sees readily the exact amount each man has to receive according to the number of hours he may have worked.—A catoptric street lamp, invented by Mr Skelton, is strikingly superior to the lamps at present in the streets of London. It would be a poor lamp, indeed, that was not superior, for, as we have before remarked, there are many provincial towns in England which excel London in style of lamp and quality of gas; but the great merit of Mr Skelton's lamp is, that it brightens the whole distance between one lamp and another, instead of leaving a gloomy central region, as ordinary lamps do. And this brighter illumination is accomplished with an important saving in the quantity of gas consumed.

Progress is making with street-tramways, and in the discussion of the question to which they have given rise. As at present constructed, the cars are too wide for narrow streets; and it having occurred to Mr Haddan that no advantage is gained by placing two rows of passengers in a big car to look in each other's faces, he has shewn that it would be better to make use of narrow carriages drawn by one horse, which could run in any thoroughfare.

These carriages would accommodate one row of inside and one row of outside passengers; and, as an essential part of Mr Haddan's system is that a carriage should start every two minutes, the one-horse service is expected to become popular and profitable. Models of these carriages, and the articles mentioned in the preceding paragraph, were also exhibited at the conversazione above referred to.

News has been received from the Rev. Canon Tristram, who, by fresh travels, has again widened our knowledge of Scripture geography and topography; in this instance by an exploration of parts of the Land of Moab heretofore unvisited by Europeans. No important inscriptions were found: the Arabs being 'children of nature,' have learned that if they bury inscribed stones and choice sculptures, a scarcity is effected, which raises the price when accordingly, some months later, they make 'discoveries' of hidden treasures. The topographical work accomplished by the party is described as satisfactory; they zigzagged through the whole of the highland plateau of Moab, and discovered many ruined cities, some of which contain remains of temples and of Christian churches; and the sites of these places were carefully laid down on maps which, we may hope, will one day be published. One part of the country is traversed by Callirrhoe, a tremendous gorge, which is described as highly interesting in its geology and its botany; and the plains of Moab, between the hills and the Dead Sea, are found to contain much fertile land with hot and cold springs. More than one attempt has been made to establish an agricultural colony in the Holy Land; will the existence of good land in Moab, with means of irrigation, occasion yet another?

From another part of the East we learn that the site and relics of the temple of Diana of the Ephesians have been discovered: that temple which was so famous in ancient days! And now portions of marble columns and fragments of sculptures are on their way to the British Museum on board *H.M.S. Caledonia*. The saying that a man may see everything in the world without leaving London becomes more and more true.

About a year ago, Professor Nagel of Tübingen published reports of cases in which he had, by the use of strychnia, restored sight to patients suffering from decay of vision or from blindness. Strychnia, as is well known, is a deadly poison, but it has a wonderful effect in stimulating the nerves; and Professor Nagel found that in diseases of the optic nerve, whether functional or organic, its operation was alike speedy and efficacious. The quantity used is of course exceedingly small, one-fortieth of a grain, mixed with water, and this solution is not to be swallowed, but is injected under the skin of one of the arms, which seems to render the result the more remarkable. This remedy has been tried by oculists elsewhere with marked success; and among recent instances occurs a naval captain, aged fifty-two, whose sight was so much impaired that he required to be led about. Within a few minutes after the first injection, as above described, the fog which darkened his eyes became less dense, and an impression of light was perceptible. After three days' use of the remedy (an injection night and morning), he could make out the furniture of the ward with sufficient clearness to guide himself about without feeling; 'and on the fourth day of treatment, without help, he succeeded at mid-day

in walking alone through the thoroughfares of the city to the home of his family, a mile from the infirmary.' May we not hope from this experience that henceforth the number of cases of blindness will be largely diminished.

We have from time to time mentioned the preparations which are in progress for observing the transit of Venus in 1874. It now appears that Russia will take part in the great work. The astronomer at Pulkowa, near St Petersburg, states that the number of Russian observing stations will be twenty-four, extending from the shores of the Pacific Ocean to Eastern Siberia, and to Persia. Competent observers and efficient instruments will be provided for each station; and as photography will be made use of, some of the party have been exercising themselves in that art, and with such good results, that they can now take instantaneous photographs of the sun with *dry plates*. This looks promising; and as other observers are practising with the spectroscope, we may be pretty sure that the coming transit will be observed as transit was never observed before. The Russians have already set on foot meteorological observations at their stations, with a view to select places which usually have clear weather in December. Other countries are expected to co-operate; and we hear that the astronomers of Germany will, ere long, publish their plan of operations.

Most people are aware that it is exceedingly difficult to reduce to powder any stiff or sticky substance. Superphosphate of lime, an artificial manure, is one of these substances; and in consequence of the difficulty, Mr T. Carr, of Bristol, designed a *Disintegrating flour-mill, and machine for pulverising minerals without grinding, crushing, or stamping*. The principle of this machine may be familiarly described: A lump of sticky material thrown into the air, and struck with a stick, will fly to pieces. So Mr Carr constructs cylindrical iron cages, with sticks or beaters whirling round therein, and with a contrivance for driving through the material to be crushed, in such a way, that the lumps are struck by the sticks and reduced to any required degree of smallness, or even to powder. The flying lumps offer but very little resistance, consequently, there is but little friction, and the power of the beaters is not impeded, as it would be by passing through a mass of lumps at rest. And thus it is found in practice, that clays, ores, and other minerals can be granulated or pulverised at pleasure.

But, perhaps, more important is the adaptation of the machine to a flour-mill. In this case it is not lumps of clay or iron ore, but grains of wheat that are struck by the beaters, which are driven round at a speed of about four hundred revolutions a minute. So effectual is the process, that the grains are instantaneously reduced to meal; this meal is removed in the way usually adopted in flour-mills, and the bran and flour are separated. The quantity of flour yielded is the same as from millstones, but the quality is far superior. The reason for this is easily seen: the flour has not been pressed or squeezed, and, to use the miller's term, is not 'killed,' but is delivered in a finely granular condition, whereby it absorbs more water when used. Bread made from this flour is lighter, and will keep better than ordinary bread; and another point worth attention is, that, as the bran is beaten off the grains in comparatively large

flakes, there is a more perfect separation of bran from flour than in that ground by millstones.

Two mills of the construction here described have been in work at Edinburgh more than a year. Each one disintegrates twenty quarters, or one hundred and sixty bushels of wheat an hour; as much as could be produced by twenty-seven pair of ordinary millstones in full work. And in actual practice, the difference in value on sixty-eight sacks of flour is five and a half per cent. in favour of the new mill, which, at the rate of twenty quarters an hour, would produce a large sum in the course of a year.

That it is important to take care of the mining population is acknowledged, and by a Mines Regulation Bill parliament is about to require that the care shall be exercised more efficiently than heretofore. To this end, we must increase our knowledge of mines, and of their working and other circumstances. If explosions are to be prevented, the more we know of the occasions of explosion the better. It has long been suspected that changes from heat to cold, and from dry to wet, had something to do with the outbursts; and confirmation of this is now given by a paper *On the Connection between Explosions in Collieries and Weather*, read before the Royal Society. In this paper it is shewn that, as a rule, the explosions take place after a fall in the barometer, or a rise in the thermometer. In either case, the 'fire-damp,' or explosive gas, pours into the mine in greater quantities than when the barometer is high, and the temperature low. It is found, too, that storms occasion explosions; and the suggestion has been made that storm-warnings should be sent to the colliery districts by telegraph, so that the miners might have time to escape from the danger. But the best and most practical remedy appears to be to force so large a stream of fresh air constantly through the mine as to sweep away therewith all the foul air. The author of this paper is Mr R. H. Scott, F.R.S., Director of the Meteorological Office.

DISCORDS.

It had some grains of truth, at least,
That fable of the Sybarite,
For whom, because one leaf was creased,
The rose-strewn couch had no delight.
I think not even sanguine youth
Expects its gold without alloy;
But this is still the sober truth:
A little pain can mar much joy.
'Tis pity, that one thwarting thought,
One adverse chance, one sudden fear
Or sharp regret, can turn to nought
The full content that seemed so near!
But this strange life of ours abounds
With notes so subtle, they afford
A thousand discords and harsh sounds
For one harmonious perfect chord.

Next Saturday, 1st June, will be commenced a NOVEL, entitled

A WOMAN'S VENGEANCE.

By the Author of *Cecil's Trust*, &c.

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